

*Periodic Hæmoglobinuria.*

Among the diseased conditions which the improved methods of observation have brought to light of late years, perhaps none is better characterized than that which was first described in England by Dr. Pavy as "paroxysmal hæmaturia," and which has also more recently been called "intermittent hæmatinuria," and in Germany "periodic hæmaglobinuria." The number of cases recorded is not large; most of them are English, six German, and only two French; but there is a striking resemblance between all of them. After exposure to cold the patient shivers, suffers from peculiar sensations in the loins and extremities, becomes febrile, and passes dark-coloured urine, highly albuminous, often containing hyaline casts but no blood-corpuscles, although oxyhæmoglobin can be detected by spectrum analysis. At the same time the skin becomes sallow, the conjunctivæ perhaps icteric, and the patient feels weak and depressed. Tenderness in the renal region is a common symptom, but the functions of all the other organs of the body may be normal. The temperature at the onset of an attack may reach 40° Cent. (104° Fahr.), or in the milder paroxysms may be little raised. We do not intend here to occupy more space with the details of individual cases, which can be found in Dr. Legg's paper (*St. Bartholomew's Hospital Reports*, vol. x.), in Professor Lichtheim's recent lecture (*Volkmann's Sammlung*, No. 134), or in the paper of Drs. Kobert and Kuessner (*Berliner Klinische Wochenschrift*, No. 43, 1878). A far more interesting subject of discussion is the source of the hæmatinuria. Is it due to a renal congestion, to an alteration of extravasated blood by oxalates in the bladder itself (Van Rossem), or to dissolution of the red corpuscles within the circulation at large? Let us consider the third hypothesis first, and, calling to mind the numerous experiments which have been made of late years on the transfusion of the blood of one animal into the circulation of another (see, for example, *Medical Times and Gazette*, vol. ii. 1874, pages 263, 689), let us compare the symptoms observed in these experiments with those met with in periodic hæmaglobinuria. They are very nearly identical. There is common to both the shiver, the transient fever, the lumbar uneasiness and pain, and the hæmatinuria, and the parallel has been rendered still closer by the occurrence of urticaria, a tolerably common sequela of "heterogeneous" transfusion, in a patient of Dr. Lichtheim's (*loc. cit.*, page 2) with periodic hæmaglobinuria.

Now, it has been proved by Landois and Ponfick that the red blood-corpuscles of one animal transfused into the circulation of an animal of another species undergo a gradual process of disintegration and solution, in which the colouring matter of the blood passes into the serum, and thence through the walls of the renal vessels into the urine. Hence we are justified in assuming that in hæmaglobinuria proper, a solution of the corpuscles of the patient's own blood takes place. Can we, however, go further, and explain the alteration in the quality of the serum on which the disintegration of the corpuscles depends? It is certainly known that chemico-physical changes—extreme dilution of the serum by water and by glycerine, the injection of saponified bile acids, the inhalation of certain poisonous gases, severe febrile diseases, and lastly, extensive burns of the skin—are attended, with more or less constancy, by hæmaglobinuria, the origin of which in solution of the red blood-corpuscles has been proved in the case of burns by Max Schultze, Werthheim, and Ponfick.

Further than this we cannot at present go. We can only conjecture that as the disease before us is invariably excited by exposure to cold, some poisonous excretion from the surface of the skin is prevented escaping by the sudden contraction of the cutaneous vessels, and thrown back into the circulation. It is not

experimentally found that even severe cooling of the skin (in rabbits) produces hæmatinuria; so that cold *per se* may be excluded as the cause of corpuscular solution. The examination of the various organs of the body, especially those supposed to be mainly engaged in the formation of the blood—the liver and spleen—has as yet given negative results. The kidneys are probably only secondarily involved, as the passage of hæmoglobin through them in large quantities has been found experimentally (Ponfick) to injure their secreting apparatus; and even if sufficiently prolonged, to cause death by the pathological changes it induces in them. The icteric tint of conjunctiva so commonly noticed within the first few days of the attack is not dependent on bile pigment in the blood. A form of hæmoglobinuria of rapid onset, and sometimes fatal, has been described by Professor Bottinger (*Deutsche Zeitschrift für Thiermedizin*, Bd. III., 1877) in horses. The general symptoms, however, are different from those of human periodic hæmoglobinuria, and the reason for alluding to it here is the fact that sudden exposure to cold after several days' rest in a warm stable is invariably the exciting cause. The chief post-mortem change is renal disease similar to that produced by experimental hæmoglobinuria.

The curious immunity of the female sex in man from this disease throws no light at present on the true causation. It would, however, be interesting to know whether the same immunity prevails in horses.

After what has been written above, we need scarcely again refer to the hypothesis of renal congestion and vesical solution spoken of earlier in this article. Van Rossem's view, that oxalates cause disintegration of blood effused with the urine into the bladder, falls to the ground at once when it is found that oxalates are often absent in these cases, and that the presence even of a very few red blood-cells or their *débris* in the urine is extremely rare.

The prognosis of hæmatinuria is, according to Lichtheim, to whose excellent monograph we are largely indebted for the materials of this article, probably less favourable than English observers are inclined to regard it. Though no fatal case has as yet been recorded, the chances of complete recovery seem to be very doubtful. Lichtheim has watched a case for five years, and the attacks continue as they did at first. But we are perhaps justified in assuming that repeated fits of hæmatinuria will cause a more and more extensive disorganization of the kidneys. The main element of rational treatment appears to be the avoidance of all causes of chill; if possible, the removal to a mild and temperate climate; warmth and rest in bed during the paroxysm; and the exhibition of iron in some one of its multitudinous forms when the pyrexia has subsided.—*Med. Times and Gazette*, Feb. 15, 1879.

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*On the Use of Vaseline and Unguentum Vaselini Plumbicum in Skin Disease.*

Prof. KAPOSI (*Wiener Med. Wochenschrift*, No. 17, 1878), after stating that all emollient substances hitherto used in diseases of the skin, where the epidermis is removed or the surface is sensitive, as various fatty substances, oils, lard, glycerine, and glycerine of starch, are more or less irritating in most cases, refers to the bland and non-irritating properties of vaseline or petroleum jelly (with this also may be classed ozokerin and unguentum petrolei). These have no tendency to become rancid, and are useful in softening and removing crusts and scales, as in cases of eczema squamosum when the surface is dry and desquamating. He introduces an ointment which promises to prove of great value. This is a modification of Hebra's well-known unguentum diachyli, which is seldom met with properly prepared except at Vienna. This ointment, for which Kaposi proposes the name of unguentum vaselini plumbicum, is made by dissolving and incorporating thoroughly by aid of heat equal parts of lead plaster and vaseline, to which a